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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,943	12/03/2003	Satyendra Yadav	42P16736	7401

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EXAMINER

DAGOSTA, STEPHEN M

ART UNIT	PAPER NUMBER
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2683

DATE MAILED: 10/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/727,943

Applicant(s)

YADAV, SATYENDRA

Examiner

Stephen M. D'Agosta

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 and 13-15 rejected under 35 U.S.C. 102(e) as being anticipated by Sibecas et al. US 2004/0203342.

As per **claims 1 and 13**, Sibecas teaches a method comprising:
determining whether a wireless communications received by a client was intended for a client on an extended coverage network serviced by the client receiving the communication (title, abstract teaches a client functioning as a router and forwarding communications to another mobile, figures 1-5, 8-9, 14, Paras. #6 and 30-34).

With further regard to claim 13, Sibecas' device acts as a router which inherently receives/stores the entire message prior to forwarding (see abstract - A portable communication device (106) used as a terminal is capable functioning as a router for communication (112, 118 and 114, 116) between other portable devices (102 and 104) in the system) .

As per **claims 2 and 14**, Sibecas teaches claim 1/13 further comprising:
selectively forwarding the communications intended for the client(s) on the extended coverage network (figures 1-3 and 14 show a mobile acting as a router and forwarding data to/from other clients).

As per **claims 3 and 15**, Sibecas teaches claim 2/14 wherein forwarding the communication(s) intended for the client on the extended coverage network comprises: transmitting the communications as received (Para#6 teaches the mobile client acting as a router to connect two other mobile clients, see figures 1-3 and 14, whereby said mobile client forwards the data, which reads on "transmitting as received").

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-6 and 16-18 rejected under 35 U.S.C. 103(a) as being unpatentable over Sibecas and further in view of Leslie et al. US 6,404,775.

As per **claims 4 and 16** Sibecas teaches claim 2/14 **but is silent on** wherein forwarding the communication(s) intended for client(s) on the extended coverage network comprises: translating the communication(s) between a primary network and the extended coverage network.

Sibecas describes the mobile repeater as a "router", which is well known in the art to provide translation between disparate networks.

Leslie teaches a translating repeater "The repeater translates control and signalling information transmitted in compliance with one air protocol to a format which complies with the other air protocol and has the same or equivalent effect. For each of the two communications system, the repeater emulates the functions of a terminal in that communications system, so that corresponding terminals in that system may communicate transparently with the repeater. The repeater provides a

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connection between the two emulated terminals, thereby allowing a terminal of the first system to use the repeater to communicate with an otherwise incompatible terminal of the second system." (Abstract)

It would have been obvious to one skilled in the art at the time of the invention to modify Sibecas, such that translating the communication(s) between a primary network and the extended coverage network, to provide means for extending coverage by translating data if the other device has roamed to a second network using a different protocol or standard.

As per **claims 5 and 17**, Sibecas teaches claim 4/16 **but is silent on** wherein translating the communication(s) between a primary network and the extended coverage network comprises:

utilizing a network address translation (NAT) table(s) to determine for which client on the extended coverage network the communication(s) was intended.

Sibecas describes the mobile repeater as a "router", which is well known in the art to provide translation between disparate networks.

Leslie teaches a translating repeater "The repeater translates control and signalling information transmitted in compliance with one air protocol to a format which complies with the other air protocol and has the same or equivalent effect. For each of the two communications system, the repeater emulates the functions of a terminal in that communications system, so that corresponding terminals in that system may communicate transparently with the repeater. The repeater provides a connection between the two emulated terminals, thereby allowing a terminal of the first system to use the repeater to communicate with an otherwise incompatible terminal of the second system." (Abstract).

The examiner takes **Official Notice** that NAT is well known in the art of data networking and requires the address of a first network to be translated into the address of a second network in order for the data of a message to be correctly transmitted from said first network to said second network.

It would have been obvious to one skilled in the art at the time of the invention to modify Sibecas, such that utilizing a network address translation (NAT) table(s) to determine for which client on the extended coverage network the communication(s) was intended, to provide means for extending coverage by translating data if the other device has roamed to a second network using a different addressing format.

As per **claims 6 and 18**, Sibecas teaches claim 4/16 **but is silent on** wherein translating the communication(s) between a primary network and the extended coverage network comprises: translating the communication(s) between a first network protocol and a second network protocol.

Leslie teaches a translating repeater "For each of the two communications system, the repeater emulates the functions of a terminal in that communications system, so that corresponding terminals in that system may communicate transparently with the repeater. The repeater provides a connection between the two emulated terminals, thereby allowing a terminal of the first system to use the repeater to communicate with an otherwise incompatible terminal of the second system." (Abstract).

It would have been obvious to one skilled in the art at the time of the invention to modify Sibecas, such that translating the communication(s) between a first network protocol and a second network protocol, to provide means for extending coverage by translating data if the other device has roamed to a second network using a different protocol standard.

Claims 7-9 and 19 rejected under 35 U.S.C. 103(a) as being unpatentable over Sibecas, and further in view of Suganthan et al. US 6,791,506.

As per **claims 7 and 19**, Sibecas teaches an electronic appliance (see figure 1 mobile terminals/devices), comprising:

one or more wireless network interface(s), coupled with an antenna(e) to communicate with other devices (see figure 1); and

an extender engine coupled with the wireless network interface(s), the extender engine to function as a client to a first access point and the extender engine to function as a second access point to one or more other client(s) (title, abstract teaches a client functioning as a router and forwarding communications to another mobile, figures 1-5, 8-9, 14, Paras. #6 and 30-34),

but is silent on one or more dipole antenna(e).

Suganthan teaches a dual band single-feed dipole antenna used in "Dual band single feed printed dipole antenna for cellular telephone, portable computer, electronic games, personal digital assistant (PDA) ". (C1, L5-55).

It would have been obvious to one skilled in the art at the time of the invention to modify Sibecas, such that it uses a dipole antenna, to provide means for supporting mobile devices which use well known, standardized antenna structures.

As per **claim 8**, Sibecas teaches claim 7, wherein the extender engine functions as a second access point to one or more clients comprises;

the extender engine to send and receive communications between clients on an extended coverage network and resource(s) on a primary network (figures 1-3 and 14 show a mobile acting as a router and forwarding data to/from other clients).

As per **claim 9**, Sibecas teaches claim 8 wherein the extender engine to send/receive communications between clients on an extended coverage network on a primary network comprises:

the extender engine to transmit the communications as received (Para#6 teaches the mobile client acting as a router to connect other mobiles, see figures 1-3 and 14, whereby mobile client forwards the data, which reads on "transmitting as received").

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Claims 10-12 rejected under 35 U.S.C. 103(a) as being unpatentable over Sibecas/Suganthan and further in view of Leslie.

As per **claim 10**, Sibecas teaches claim 8 **but is silent on** wherein the extender engine sends/receives communications between clients on extended network and resources on a primary network comprises:

the extender engine to translate the communications between the primary network and extended network

Sibecas describes the mobile repeater as a "router", which is well known in the art to provide translation between disparate networks.

Leslie teaches a translating repeater "The repeater translates control and signalling information transmitted in compliance with one air protocol to a format which complies with the other air protocol and has the same or equivalent effect. For each of the two communications system, the repeater emulates the functions of a terminal in that communications system, so that corresponding terminals in that system may communicate transparently with the repeater. The repeater provides a connection between the two emulated terminals, thereby allowing a terminal of the first system to use the repeater to communicate with an otherwise incompatible terminal of the second system." (Abstract).

It would have been obvious to one skilled in the art at the time of the invention to modify Sibecas, such that utilizing a network address translation (NAT) table(s) to determine for which client on the extended coverage network the communication(s) was intended, to provide means for extending coverage by translating data if the other device has roamed to a second network using a different addressing format.

As per **claim 11**, Sibecas teaches claim 10, **but is silent on** wherein the extender engine to translate the communications between the primary network and the extended coverage network comprises:

the extender engine to utilize a network address translation (NAT) table(s) to determine for which clients the communications was intended.

Sibecas describes the mobile repeater as a "router", which is well known in the art to provide translation between disparate networks.

Leslie teaches a translating repeater "The repeater translates control and signalling information transmitted in compliance with one air protocol to a format which complies with the other air protocol and has the same or equivalent effect. For each of the two communications system, the repeater emulates the functions of a terminal in that communications system, so that corresponding terminals in that system may communicate transparently with the repeater. The repeater provides a connection between the two emulated terminals, thereby allowing a terminal of the first system to use the repeater to communicate with an otherwise incompatible terminal of the second system." (Abstract).

The examiner takes **Official Notice** that NAT is well known in the art of data networking and requires the address of a first network to be translated into the address of a second network in order for the data of a message to be correctly transmitted from said first network to said second network.

It would have been obvious to one skilled in the art at the time of the invention to modify Sibecas, such that utilizing a network address translation (NAT) table(s) to determine for which client on the extended coverage network the communication(s) was intended, to provide means for extending coverage by translating data if the other device has roamed to a second network using a different addressing format.

As per **claim 12**, Sibecas teaches claim 10, **but is silent on** wherein the extender engine to translate the communications between the primary network and the extended coverage network comprises:

the extender engine to translate the communications between a first network protocol and a second network protocol.

translating the communication(s) between a first network protocol and a second network protocol.

Leslie teaches a translating repeater "The repeater translates control and signalling information transmitted in compliance with one air protocol to a format which complies with the other air protocol and has the same or equivalent effect. For each of the two communications system, the repeater emulates the functions of a terminal in that communications system, so that corresponding terminals in that system may communicate transparently with the repeater. The repeater provides a connection between the two emulated terminals, thereby allowing a terminal of the first system to use the repeater to communicate with an otherwise incompatible terminal of the second system." (Abstract).

It would have been obvious to one skilled in the art at the time of the invention to modify Sibecas, such that translating the communication(s) between a first network protocol and a second network protocol, to provide means for extending coverage by translating data if the other device has roamed to a second network using a different protocol standard.

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Claims 20-23 rejected under 35 U.S.C. 103(a) as being unpatentable over Sibecas/Suganthan and further in view of Stanforth US 2002/0058504.

As per **claim 20**, Sibecas teaches claim 19 **but is silent on** wherein the control logic to function as a second access point complies with the IEEE 802.11 specification.

Sibecas teaches supporting many different protocols (Para#34, last few sentences teach CDMA, TDMA, GSM, paging, etc.). Hence the primary examiner believes that Sibecas would support the IEEE 802.11 standard as well.

Stanforth specifically teaches an ad hoc peer-to-peer mobile radio access system (title, abstract, figure 5) which uses/supports the IEEE 802.11 standard (Para#8).

It would have been obvious to one skilled in the art at the time of the invention to modify Sibecas, such that IEEE 802.11 is used, to provide means for supporting well known RF transmission/networking standards

As per **claim 21**, Sibecas teaches claim 20, **but is silent on** further comprising the control logic to create two or more virtual networks.

Stanforth teaches creating/supporting virtual connections to other users which reads on a virtual network (Para# 45 and 54 – “and provide routing information to the external network to allow a virtual connection to be established with the ad-hoc terminal through a respective gateway 16”).

The primary examiner takes **Official Notice** that VLAN's are well known in the art.

It would have been obvious to one skilled in the art at the time of the invention to modify Sibecas, such that it can create two or more virtual networks, to provide means for connecting to different users in different networks via well known technologies such as VLAN's.

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As per **claim 22**, Sibecas teaches claim 21, **but is silent on** further comprising the control logic to time-share one wireless network interface between two or more virtual networks.

Stanforth teaches use of IEEE802.11 which inherently timeshares the network link/interface (Para#10 – “Past research has shown that conventional Carrier Sense Multiple Access (CSMA) algorithms experience diminishing returns when networks approach their ultimate capacity. The vast majority of current research centers on channel access algorithms that provide transmission capacity over a single shared medium. An example of this is the IEEE 802.11 wireless standard which employs a Carrier Sense Multiple Access/Collision Avoidance (CSMA/CA) algorithm. All users within a Basic Service Set (BSS) share a common channel resource”).

It would have been obvious to one skilled in the art at the time of the invention to modify Sibecas, such that the controller time-shares one wireless network interface between two or more virtual networks, to provide means for supporting well known industry standards such as Ethernet IEEE 802.x.

As per **claim 23**, Sibecas teaches claim 22 **but is silent on** wherein the control logic to time-share utilizes one or more of 802.11 RTS/CTS and CTS-To-Self techniques.

Stanforth teaches use of 802.11 RTS/CTS (Para#55).

It would have been obvious to one skilled in the art at the time of the invention to modify Sibecas, such that the controller time-share utilizes one or more of 802.11 RTS/CTS and CTS-To-Self techniques, to provide means for supporting well known industry standards such as Ethernet IEEE 802.x.

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Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Urtani US 5,850,593
2. Logsdon et al. US 5,890,054
3. Lehmusto et al. US 5,907,794
4. Umstetter et al. US 2002/0115455
5. Silvester US 2004/0192193
6. Haller et al. US 2002/0163895
7. Dinkins US 4,659,878

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. D'Agosta whose telephone number is 571-272-7862. The examiner can normally be reached on M-F, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stephen D'Agosta
Primary Examiner
8-26-2005

